

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A base station transmitter in a CDMA system, comprising:

a base station modem for direct-spectrum spreading PCM data to ~~[[an]]~~ I-channel and Q-channel CDMA signals;

a digital combiner for summing up the spectrum-spread CDMA signals by sectors into digital base-band CDMA signals;

a digital signal processor for ~~making the data rate of the digital base band CDMA signals from the digital combiner twice~~ converting the digital base-band CDMA signals into parallel signals with a first data rate and for outputting the parallel signals with a second data rate that is twice a data rate of the first data rate; and

an RF processor for converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals.

2. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 1, wherein the digital signal processor includes:

first and second serial-to-parallel converters for converting the digital base-band CDMA signals ~~outputted~~ from the digital combiner into parallel signals;

first and second phase equalizers for compensating ~~[[the]]~~ phases of the converted parallel digital CDMA signals; and

~~[[third]]~~ first and ~~fourth~~ second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate ~~twice that of the signals inputted thereto.~~

3. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 2, wherein each of the first and second phase equalizers ~~in configured of~~ includes an IIR (Infinite Impulse Response) filter.

4. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 1, wherein the RF processor includes:

first and second D/A converters for converting the CDMA signals ~~outputted~~ from the digital signal processor into analog CDMA signals;

first and second mixers for mixing the analog CDMA signals ~~outputted~~ from the first and second D/A converters with RF signals, to output RF CDMA signals; and

~~a third~~ an adder for adding up the RF CDMA signals outputted from the first and second mixers, to generate a QPSK-modulated CDMA signal.

5. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 4, wherein the RF processor further includes:

a band pass filter for removing ~~[[the]]~~ spurious component from the QPSK-modulated CDMA signal received from the ~~[[third]]~~ adder; and

an amplifier for amplifying ~~[[the]]~~ an output signal of the band pass filter and sending the amplified signal to an antenna.

6. (Currently Amended) A base station transmitter in a CDMA system, comprising:

a base station modem for direct-spectrum spreading PCM data to ~~[[an]]~~ I-channel and Q-channel CDMA signals;

a digital combiner for summing up the spectrum-spread CDMA signals by sectors into digital base-band CDMA signals;

a digital signal processor for ~~making the data rate of the digital base-band CDMA signals from the digital combiner twice~~ for converting the digital base-band CDMA signals into parallel signals with a first data rate and for outputting the parallel signals with a second data rate that is twice a data rate of the first data rate; and

an RF processor for converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals,

wherein the digital signal processor includes first and second serial-to-parallel converters for converting the digital CDMA signals ~~outputted~~ from the digital combiner into parallel signals,

first and second phase equalizers for compensating ~~[[the]]~~ phases of the converted parallel digital CDMA signals, and

~~third and fourth~~ first and second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate ~~twice that of the signals inputted thereto.~~

7. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 6, wherein the each of the first and second phase equalizers ~~is configured of~~ includes an IIR (Infinite Impulse Response) filter.

8. (Currently Amended) The base station transmitter in a CDMA system as claimed in claim 6, wherein the RF processor includes:

first and second D/A converters for converting the digital CDMA signals ~~outputted~~ from the digital signal processor into analog CDMA signals;

first and second mixers for mixing the analog CDMA signals ~~outputted~~ from the first and second D/A converters with RF signals, to output RF CDMA signals; and
~~a third an~~ adder for adding up the RF CDMA signals ~~outputted~~ from the first and second mixers, to generate a QPSK-modulated CDMA signal.

9. (New) A base station transmitter in a CDMA system comprising:
a digital signal processor for converting digital base-band CDMA signals into parallel signals with a first data rate and for outputting the parallel signals with a second data rate that is twice a data rate of the first data rate; and
an RF processor for converting the digital base-band CDMA signals outputted from the digital signal processor into analog RF CDMA signals.

10. (New) The base station transmitter in a CDMA system as claimed in claim 9, further comprising:
a base station modem for direct-spectrum spreading PCM data to I-channel and Q-channel CDMA signals; and
a digital combiner for summing up the spectrum-spread CDMA signals by sectors into the digital base-band CDMA signals.

11. (New) The base station transmitter in a CDMA system as claimed in claim 10, wherein the digital signal processing includes:

first and second phase equalizers for compensating phases of the converted parallel digital CDMA signals; and

first and second FIR filters for filtering the digital CDMA signals whose phases were compensated with a predetermined sampling frequency to make the digital CDMA signals have the second data rate.

12. (New) The base station transmitter in a CDMA system as claimed in claim 11, wherein each of the first and second phase equalizers includes an IIR (Infinite Impulse Response) filter.

13. (New) The base station transmitter in a CDMA system as claimed in claim 10, wherein the RF processor further includes:

first and second D/A converters for converting the CDMA signals from the digital signal processor into analog CDMA signals;

first and second mixers for mixing the analog CDMA signals from the first and second D/A converters with RF signals, to output RF CDMA signals; and

an adder for adding up the RF CDMA signals outputted from the first and second mixers, to generate a QPSK-modulated CDMA signal.

14. (New) The base station transmitter in a CDMA system as claimed in claim 13, wherein the RF processor further includes:

a band pass filter for removing spurious component for the QPSK-modulated CDMA signal received from the adder; and

an amplifier for amplifying an output signal of the band-pass filter and sending the amplified signal to an antenna.